

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF HAWAII

In the Matter of

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to Investigate the  
Implementation Of Feed-in Tariffs.

DOCKET NO. 2008-0273

FILED  
2008 MAR 20 PM 2:33  
PUBLIC UTILITIES  
COMMISSION

**BLUE PLANET FOUNDATION'S FINAL STATEMENT OF  
POSITION AND PROPOSED FEED-IN TARIFF**

**AND**

**CERTIFICATE OF SERVICE**

SCHLACK ITO LOCKWOOD PIPER & ELKIND  
Douglas A. Codiga, Esq.  
Topa Financial Center  
745 Fort Street, Suite 1500  
Honolulu, Hawaii 96813  
Tel. (808) 523-6040

Attorney for Blue Planet Foundation

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF HAWAII

In the Matter of

DOCKET NO. 2008-0273

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to Investigate the  
Implementation Of Feed-in Tariffs.

**BLUE PLANET FOUNDATION'S FINAL STATEMENT OF  
POSITION AND PROPOSED FEED-IN TARIFF**

Blue Planet Foundation ("Blue Planet"), by and through its attorneys Schlack Ito Lockwood Piper & Elkind, hereby submits its Final Statement of Position ("SOP") and Proposed Feed-In Tariff ("Proposed FIT").<sup>1</sup>

A new day is dawning in Hawaii energy policy. As Governor Lingle declared regarding the historic Hawaii Clean Energy Initiative, "[o]ur islands' abundant natural sources of energy, combined with the considerable capabilities of the Department of Energy, will help Hawai'i lead America in utilizing clean, renewable energy technologies." State of Hawaii Office of the Governor, *Hawai'i and U.S. Department of Energy Partner to Make Hawai'i a "World Model" For Clean Energy Economy* (Jan. 28, 2008).<sup>2</sup>

Consistent with the Hawaii Clean Energy Initiative and the October 2008 Energy Agreement,<sup>3</sup> Hawaii is poised to become the first state in the nation to adopt a feed-in tariff ("FIT") that may foster the rapid adoption of renewable energy. With a proven track record in Europe and North America, such an FIT offers the promise of cutting ratepayers' electricity

---

<sup>1</sup> Blue Planet's SOP is timely filed in accordance with the March 30, 2009 deadline established by the "Order Approving the HECO Companies' Proposed Procedural Order, As Modified" issued by the State of Hawaii Public Utilities Commission ("Commission") on January 20, 2009. *Id.* at 12.

<sup>2</sup> Available at <http://hawaii.gov/gov/news/releases/2008/hawaii-and-u.s.-department-of-energy-partner-to>.

<sup>3</sup> *Energy Agreement Among the State of Hawaii, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies* dated Oct. 20, 2008 at 1 ("Energy Agreement").

costs, creating jobs, and reducing Hawaii's dependence on imported oil. By aiding Hawaii's swift transition to a clean energy economy, such an FIT can help establish Hawaii as a global leader in energy self reliance and ensure that its citizens enjoy the economic and environmental benefits promised by the Energy Agreement.

The Joint Proposal<sup>4</sup> and Straw Tariff<sup>5</sup> submitted by the HECO Companies<sup>6</sup> and the Consumer Advocate,<sup>7</sup> however, propose an FIT that is out of step with the Energy Agreement's vision of Hawaii as a leader in renewable energy. Its limited scope and overly-restrictive design features – a departure from the typical FIT – may prevent FITs from helping achieve Hawaii's renewable energy goals and fulfilling the promise of the Energy Agreement. Blue Planet therefore respectfully submits that the Commission should adopt an FIT consistent with its Proposed FIT, attached as Exhibit A.<sup>8</sup>

## **I. FEED-IN TARIFF POLICY OBJECTIVES**

The Commission should adopt an FIT that is most likely to achieve, to the extent reasonably possible, the economic and environmental policy objectives associated with the adoption of an FIT in Hawaii ("FIT Policy Objectives"). Conversely, the Commission should reject an FIT that is less likely or unlikely to achieve the FIT Policy Objectives.

The Commission should adopt an FIT that is most likely to achieve the FIT Objectives because such FITs have proven highly successful in a large number of locations

---

<sup>4</sup> "Joint Proposal on Feed-in Tariffs of the HECO Companies and Consumer Advocate" dated Dec. 23, 2008 ("Joint Proposal").

<sup>5</sup> On January 15, 2009, HECO distributed draft versions of its proposed Schedule FIT Tariff, Schedule FIT Agreement (Appendix I), Schedule FIT Overview (Appendix II), and Schedule FIT Program Overview (Appendix III) to the intervenor parties in "straw format" ("Straw Tariff"). E-mail from M. Chun (HECO) to Intervenor Parties dated Jan. 15, 2009.

<sup>6</sup> Hawaiian Electric Company, Inc.; Maui Electric Company, Limited; and Hawaii Electric Light Company, Inc.

<sup>7</sup> State of Hawaii Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs.

<sup>8</sup> With regard to the references throughout the Proposed FIT to various appendices and exhibits, Blue Planet's position is that any differences between Proposed FIT and Straw FIT appendices and exhibits should at the appropriate time be resolved in a manner that conforms to the Proposed FIT.



around the world. FITs “have been widely adopted” and are the most prevalent renewable energy policy in the world. KEMA, Inc., “HECO Feed-in Tariff Program Plan (Dec. 2008) at 55 (“KEMA Report”). As of 2007, over thirty-seven countries have adopted FITs. *Id.* FITs have “stimulated more renewable technology than any other policy mechanism.” P. Gipe, *Renewable Energy Policy Mechanisms* (Feb. 17, 2006)<sup>9</sup> at 1.

In addition, the Commission should adopt an FIT that is most likely to achieve the FIT Objectives because such an FIT is supported or required by Hawaii state law, the HCEI MOU,<sup>10</sup> the Energy Agreement, and related authoritative sources and materials. Indeed, as the Commission’s October 24, 2008 Order (“Order”) notes, the HECO Companies have committed to implement feed-in tariffs to “dramatically accelerate the addition of renewable energy from new sources [and] encourage increased development of alternative energy projects.” Order at 2.

Thus, the purpose of the following discussion of the FIT Policy Objectives is both to describe such policy objectives (for a typical FIT and also the FIT required by the Energy Agreement) and to propose them as the criteria upon which the Commission should base its decision in this proceeding.

**A. Rapid Adoption Objective.**

The Commission should adopt an FIT that is most likely to achieve the rapid adoption of the maximum feasible amount of renewable energy in Hawaii (“Rapid Adoption Objective”). The Rapid Adoption Objective is fundamental to an FIT and a defining feature of successful FITs in Europe and North America. *See, e.g.*, KEMA Report at 55-61.

---

<sup>9</sup> Available at <http://www.wind-works.org/FeedLaws/RenewableEnergyPolicyMechanismsbyPaulGipe.pdf/>.

<sup>10</sup> *Memorandum of Understanding Between the State of Hawaii and the U.S. Department of Energy* dated Jan. 28, 2008 (“HCEI MOU”).



Hawaii law promotes and requires objectives consistent with the Rapid Adoption Objective. The Constitution of the State of Hawaii, Article XI, "Conservation and Development of Resources," promotes the development of renewable energy:

For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

*Id.* (emphasis added). A significant number of Hawaii's energy-related statutes similarly require and promote the rapid adoption of the maximum feasible amount of renewable energy.<sup>11</sup>

Consistent with Hawaii law, the HCEI MOU and Energy Agreement establish the Rapid Adoption Objective and require the adoption of an FIT in Hawaii that is likely to achieve this fundamental policy objective.

- The MOU estimates that "Hawaii can potentially meet between 60 and 70 percent of its future energy needs from clean, renewable energy sources." *Id.* at 1 (emphasis added).
- The Energy Agreement parties commit to the goal of "70 percent clean, renewable energy for electricity and transportation by 2030[.]" *Id.* at 18 (emphasis added).
- The Energy Agreement affirms that "[t]he future of Hawaii requires that we move more decisively and irreversibly away from imported fossil fuel for electricity and transportation and towards indigenously produced renewable energy and an ethic of energy efficiency. *Id.* (emphasis added).

---

<sup>11</sup> See, e.g., Haw. Rev. Stat. § 46-19 (counties may participate in the development of alternative energy resources); Haw. Rev. Stat. § 46-19.4 (agencies shall provide priority handling and processing of county permits required for renewable energy projects); Haw. Rev. Stat. § 196-1 (finding an immediate need to formulate plans for the development and use of alternative energy sources); Haw. Rev. Stat. § 196-1.5 (agencies shall provide priority handling and processing of state permits required for renewable energy projects); Haw. Rev. Stat. § 196-41 (State of Hawaii Department of Land and Natural Resources and Department of Business, Economic Development and Tourism shall facilitate the private sector's development of renewable energy projects); Haw. Rev. Stat. § 201-12 (DBEDT shall develop a state program for the efficient development of new or alternative sources of energy); Haw. Rev. Stat. 201-12.5 (establishing within DBEDT the position of renewable energy coordinator to facilitate renewable energy development); Haw. Rev. Stat. ch. 201N (establishing a renewable energy facility siting process); Haw. Rev. Stat. § 226-18 (it shall be State policy to "promote the use of renewable energy sources"); Haw. Rev. Stat. § 269-27.2 (promoting utilization of electricity generated from no fossil fuels); and Haw. Rev. Stat. ch. 269 Parts V and VI (establishing renewable portfolio standards and net energy metering).

- The Energy Agreement parties agree to “implement feed-in tariffs as a method for accelerating the acquisition of renewable energy[.]” *Id.* at 17 (emphasis added).
- The parties commit to “accelerate the adoption of” distributed generation and distributed energy storage. *Id.* at 27 (emphasis added).
- The parties commit to integrate “the maximum attainable amount of wind energy on their systems.” *Id.* at 3 (emphasis added).
- The parties agree that the HECO Companies “are responsible for expeditiously integrating customer-sited PV and CSP energy into the utility system[.]” *Id.* at 12 (emphasis added).
- The parties affirm that “[t]he very future of our land, our economy and our quality of life is at risk if we do not make this move and we do so for the future of Hawaii and of the generations to come.” *Id.* (emphasis added).

The HCEI White Paper<sup>12</sup> similarly establishes that the purpose of an FIT in Hawaii should be to achieve the Rapid Adoption Objective.

An interesting comparison of PV penetration can be seen from Germany as compared to California. Between 1996 and December 31, 2006, Californians placed 198 MW of PV systems on the roofs of their homes, businesses, government, and schools; in the same period, Germany installed 2700 MW of PV capacity using enhanced FITs. The RE generated by these installations rose 60% in 2007 compared with 2006. This achievement is underscored by the fact that Germany gets an average of only 1,528 hours of sunshine a year, comparable to London’s but one-third fewer sunshine hours than in Florence, and only half of San Diego’s.

*Id.* at 12 (emphasis added). The HCEI White Paper notes that Spain’s FITs “were responsible for rapid growth in wind power[.]” *id.* at 14, and that a revised FIT for wind in Portugal had a “strong and noticeable impact” with “installed wind capacity . . . growing exponentially since 1999.” *Id.* at 16.

Finally, the KEMA Report also describes and promotes the Rapid Adoption Objective. The potential benefits of an FIT include “[r]apid renewable energy market growth.”

---

<sup>12</sup> D. Hinrichs, *Feed-in Tariff Case Studies: A White Paper in Support of The Hawaii Clean Energy Initiative* (“HCEI White Paper”) at 7 (emphasis added).



*Id.* at 1 (emphasis added). FIT payments “can rapidly grow renewable energy markets and achieve ambitious goals.” *Id.* at 60 (emphasis added). FITs “can drive renewable energy development more rapidly than other policy types[.]” *Id.* at 2. (emphasis added). The German FIT law “triggered rapid and sustained renewable energy growth in Germany.” *Id.* at 56 (emphasis added). And a similar FIT law in Spain resulted in the installation of 3,522 MW of wind energy in 2007 (a European record) and Spain’s photovoltaic market grew by over 300%. *Id.* at 58.

**B. Ratepayer Benefit Objective.**

A primary reason for achieving the Rapid Adoption Objective by means of an FIT is to provide ratepayers with the cost savings associated with FITs. The Commission should therefore adopt an FIT that is most likely to achieve, to the extent reasonably possible, such cost savings for ratepayers (“Ratepayer Benefit Objective”). In essence, the Ratepayer Benefit Objective may be understood as the cost savings to ratepayers from lower electricity rates in conjunction with achievement of the Rapid Adoption Objective, assuming that over the long term the cost of electricity from imported oil is higher than the cost of electricity from indigenous renewable sources.

In the short term, it is possible that an FIT may result in a higher cost to ratepayers. The Scoping Paper notes that policymakers use FITs to encourage resource development “by compensating developers in excess of a market-based avoided cost.” *Id.* at 5. Under an FIT, renewable energy generators are paid a “premium rate” that is designed to generate a reasonable profit which is “shared equitably by all grid customers.” HCEI White Paper at 7. Over the long term, however, an FIT may result in cost savings from reduced reliance on imported oil to generate electricity, assuming renewable energy is less costly.



Such long-term cost benefits associated with the rapid and widespread adoption of renewable energy, through FITs and other mechanisms, are anticipated by the Energy Agreement. For example, the Energy Agreement parties “accept that the transition to this clean energy future will require significant public and private investment with impacts on Hawaii’s ratepayers and taxpayers and, we expect to achieve long-term benefits that outweigh the costs of such investments.” Energy Agreement at 1 (emphasis added). The parties agree to “strive to assure that this process to achieve the HCEI goals and objectives will be directed towards providing ratepayer benefits, including long term price stability, and ultimately lower cost than would be incurred using imported fossil fuels.” *Id.* Energy costs “may be higher at first, but in the long run can be more stable than with current volatile oil pricing.” Energy Agreement at 43 (emphasis added).

According to FIT authority Paul Gipe, the European Renewable Energy Federation suggests “it may be more cost-effective in the long term to stimulate rapid development of renewable technologies by paying high prices today to bring technology quickly down the learning curve than by slowly introducing the technology with timid measures that pay lower prices.” P. Gipe, *Renewable Energy Policy Mechanisms* (Feb. 17, 2006) at 28. An International Energy Agency study of renewable energy policy concluded incentives such as FITs “can lower renewable energy costs by 10 to 30 percent compared to other policy structures.” KEMA Report at 58 (emphasis added). The KEMA Report similarly acknowledges an FIT offers the benefits of the reduction of project developer costs, risks and complexity “without significantly increasing ratepayer cost.” KEMA Report at 1.

The ability of an FIT to achieve the Ratepayer Benefit is underscored by the cumulative additional net cost for the German FIT program, which has been estimated at

approximately \$573 per person over a twenty-year period, or \$28.65 per year. HCEI White Paper at 33; *see also* M. Maedl, *The German FIT for Renewable Energy – A Bargain!* (April 14, 2008).<sup>13</sup> With wind, solar, biomass, and other renewable energy capacity, Germany in 2006 derived 14.2% of its electricity from renewable energy sources with a 3-5% increase in electric rates to consumers. HCEI White Paper at 3. As of 2008, the increase of FIT payments for ratepayers in Germany has been \$.01 per kWh. *Id.* at 33.

**C. Job Growth Objective.**

The Commission should adopt an FIT that is most likely to stimulate the greatest increase in employment in Hawaii related to achievement of the Rapid Adoption Objective (“Job Growth Objective”). FITs are widely understood to stimulate job growth. The KEMA Report, for example, states:

Economic development and job creation: Renewable energy creates more jobs than other energy industries and also has a higher multiplier impact on local economies than does conventional energy development. To the extent that FITs can drive renewable energy development more rapidly than other policy types, these local job creation benefits can be achieved on a quicker timescale. Germany, for example, employed over 250,000 in the renewable energy industry in 2007, an increase of more than 90,000 jobs since 2004.

*Id.* at 3 (emphasis added). The HCEI MOU contemplates “significant . . . economic growth opportunities.” *Id.* at 1 (emphasis added). One of an FIT’s “key goals” is to “build the workforce with crosscutting skills to enable and support a clean energy economy.” *Id.* at 1 (emphasis added).

---

<sup>13</sup> Available at <http://www.renewableenergyworld.com/rea/news/article/2008/04/the-german-fit-for-renewable-energy-a-bargain-52156>.



**D. Generator Security Objective.**

The Commission should adopt an FIT that is most likely to provide the requisite security and support for renewable energy generators – and their investors – to achieve the Rapid Adoption Objectives (“Generator Security Objective”). The Generator Security Objective may be further described as the generator’s legal right to interconnect to the utility’s electricity system and to receive payment for electricity generated, as well as appropriate payment rates.

The Generator Security Objective is a well-established feature of FIT design. The Scoping Paper refers to the “term of obligation” and “obligation period” for payment under an FIT. *Id.* at 9. Proposed national FIT legislation includes three main design elements modeled on successful national policies in Europe, one of which is a “mandatory purchase requirement through fixed-rate 20-year contracts.” HCEI White Paper at 7 (emphasis added). A “key provision” of an FIT is that “the utility is obliged to connect [renewable energy] power plants to their grid at any connection point that is technically and economically suitable[.]” *Id.* The World Futures Council has identified grid access and interconnection is one of three “essential elements” of an FIT. HCEI White Paper at 29.

**E. Grid Improvement Objective.**

The Commission should adopt an FIT that is likely to achieve, to the extent reasonably possible, the rapid improvement of the electric utilities’ grid systems to accommodate and support achievement of the Rapid Adoption Objective (“Grid Improvement Objective”). Assuming a successful FIT is implemented, to accommodate the anticipated growth in renewable energy generation the HECO Companies will of necessity be required to improve the grid in a manner consistent with this objective.

The Energy Agreement promotes and requires achievement of the Grid Improvement Objective. *See, e.g.,* Energy Agreement at “Wind Power for Hawaii” (HECO



Companies “are committed to integrating the maximum attainable amount of wind energy on their systems”), “The Technology of Inter-Island Renewables” (discussing modifications to transmission grids), “Distributed Generation (DG) and Distributed Energy Storage” (review of implementation of Rule 14.H tariffs and “significant investment” in smart grid technologies and changes to grid operations to accept higher levels of distributed generation), “Investment in the Infrastructure” (parties “specifically reject deferred maintenance” and agree additional investments in transmission, distribution and generation may be necessary), “The Smart Grid” (smart grid is “critical component” of Hawaii’s energy future to improve integration of intermittent renewables).

**F. Global Leader Objective.**

Finally, the Commission should adopt an FIT that is likely, to the extent reasonably possible, to establish Hawaii as a global leader in creating a clean energy economy (“Global Leader Objective”). In addition to Gov. Lingle’s pronouncement, the Energy Agreement provides that “[s]uccessfully developing Hawaii’s energy economy will make the State a global model for achieving a sustainable, clean, flexible, and economically vibrant and independent energy future.” *Id.* at 1 (emphasis added). One of the “key goals” of the MOU is to “establish an ‘open source’ learning model for others seeking to achieve similar goals.” *Id.* at 2 (emphasis added). As the KEMA Report notes, “Hawaii’s plan to establish an FIT by July, 2009, places the State at the leading edge of renewable energy policy development in the United States.” *Id.* at 67.

**II. PROCEDURAL ORDER ISSUES**

Blue Planet’s overarching position is that the Proposed FIT is most likely to achieve the Rapid Adoption, Ratepayer Benefit, Job Growth, Generator Security, Grid Improvement, and Global Leader policy objectives. The Commission should therefore adopt a

more typical FIT, such as the Proposed FIT, rather than an FIT as described in the Joint Proposal and Straw Tariff.

**A. Purpose of Project-Based Feed-in Tariffs (PBFiTs).**

**1. What, if any, purpose do PBFiTs play in meeting Hawaii's clean energy and energy independence goals, given Hawaii's existing renewable energy purchase requirements by utilities?**

The Energy Agreement proposes adoption of an FIT, which suggests the parties believe an FIT has a purpose to play in "meeting Hawaii's clean energy and energy independence goals." *Id.* Existing renewable energy purchase requirements established by the Renewable Portfolio Standards<sup>14</sup> ("RPS") are insufficient to meet Hawaii's clean energy and energy independence goals. As explained in the HCEI White Paper, RPS should be complemented by an FIT:

Although it is projected that RPS policies will require the development of over 60 gigawatts of renewable sources by 2025, this will only account for 15% of projected electricity demand growth in that year. These gains are modest in comparison to the scenarios and potential for RE market growth and job creation that have been recommended by experts and industry organizations during the past few years. It is also worth noting that RPS mechanisms have tended to be most successful in stimulating new RE capacity in the United States where they have been used in combination with federal Production Tax Credits (PTCs). In periods where PTCs have expired, the RPS alone has often proven to be insufficient stimulus to stimulate large volumes of capacity.

In order to meet increasingly aggressive environmental and economic development goals, US policy makers are looking at new ways to accelerate renewable energy market growth. Among the policy mechanisms emerging in the U.S. that are being considered are feed-in tariffs which are being widely used in the European Union to help it reach its target for countries to generate 12.5 % of electricity from RE sources by 2010.

---

<sup>14</sup> Haw. Rev. Stat. ch. 269-91, *et seq.*

*Id.* at 6 (emphasis added); *see also id.* at 29 (FIT as “complementary support mechanism” for RPS quotas); P. Gipe, *Renewable Energy Policy Mechanisms* (Feb. 17, 2006) at 16-17 (California’s RPS program has produced only a small fraction of the wind capacity stimulated by California’s standard offer contract program; “[f]ew states have successfully deployed the RPS”); *id.* at 42 (“countries with Renewable Tariffs have consistently met . . . or surpassed their renewable targets”).

**2. What are the potential benefits and adverse consequences of PBFiTs for the utilities, ratepayers and the state of Hawaii?**

**Utilities.** A typical FIT, such as the Proposed FIT, can assist the utilities in achieving the FIT Policy Benefits including the Grid Improvement Objective. There do not appear to be any objectively adverse consequences to the utilities from adoption of an FIT. With regard to alleged grid safety and reliability concerns, the Proposed FIT acknowledges the HECO Companies’ right to curtail electricity for safety and reliability conditions such as those described in Section 5 (Continuity of Service), Section 6 (Personnel and System Safety) and Section 7 (Prevention of Interference) of the Straw Tariff.

**Ratepayers.** The chief benefit an FIT can obtain for ratepayers is the Ratepayer Benefit. Assuming that benefit is achieved, over the long term there do not appear to be any objectively adverse consequences to ratepayers from adoption of a typical FIT such as the Proposed FIT.

**State of Hawaii.** A typical FIT can assist the State of Hawaii in achieving the FIT Policy Benefits including the Job Growth Benefit. There do not appear to be any objectively adverse consequences to the State from adoption of a typical FIT such as the Proposed FIT.



**3. Why is or is not the PBFiT the superior methodology to meet Hawaii's clean energy and energy independence goals?**

A typical FIT, such as the Proposed FIT, is designed to achieve the FIT Policy Objectives. These benefits are important and significant; FITs therefore merit description as a "superior" methodology. Regulatory agencies in other jurisdictions have determined that such FITs are superior to other existing or potential methodologies. FITs are the most prevalent renewable energy policy in the world. KEMA Report at 55. They have "stimulated more renewable technology than any other policy mechanism." P. Gipe, *Renewable Energy Policy Mechanisms* (Feb. 17, 2006) at 1.

**B. Legal Issues**

**4. What, if any, modifications are prudent or necessary to existing federal or state laws, rules, regulations or other requirements to remove any barriers or to facilitate the implementation of a feed-in tariff not based on avoided costs?**

To facilitate the implementation of an FIT not based on avoided costs it appears to be prudent or necessary to modify the avoided cost ceiling under section 269-27.2, Hawaii Revised Statutes.

**5. What evidence must the commission consider in establishing a feed-in tariff and has that evidence been presented in this investigation?**

The standard of evidence employed by the Commission in establishing an FIT should not differ from the "substantial evidence" standard established under section 91-1, Hawaii Revised Statutes. That standard requires "such evidence as a reasonable mind might accept as adequate to support a conclusion." Op. Atty. Gen. No. 76-1 (1976).

**C. Role of Other Methodologies**

- 6. What role do other methodologies for the utility to acquire renewable energy play with and without a PBFiT, including but not limited to power purchase contracts, competitive bidding, avoided cost offerings and net energy metering?**

**Power Purchase Contracts.** Assuming the Commission adopts an FIT capable of achieving the FIT Policy Objectives, power purchase agreements may play a limited role in the future acquisition of renewable energy in Hawaii. Generators and investors may favor an FIT based in part upon the Generator Security Objective. The HECO Companies should favor an FIT for its ability to achieve the Rapid Adoption Objective consistent with its commitments under the Energy Agreement.

**Competitive Bidding.** The Framework for Competitive Bidding ("CBF")<sup>15</sup> should be effectively discontinued in conjunction with the Commission's adoption of an FIT. The CBF does not apply to generating units with a net output available to the utility of 1% or less of a utility's total firm capacity, including that of independent power producers, or with a net output of 5 MW or less (2.7 MW or less on Maui and Hawaii), whichever is lower ("CBF project size threshold"). CBF at 5. The Energy Agreement suggests this proceeding is to consider "the continuing role of the Competitive Bidding Framework" as a factor in determining the best design for an FIT. *Id* at 17. The targeted project sizes of the Straw Tariff are well below the CBF project size threshold and the Joint Proposal suggests that the CBF shall remain unchanged. Joint Proposal at 16. The Proposed FIT, however, allows project sizes above the CBF project size threshold.

A typical FIT is more likely than the CBF to achieve the Rapid Adoption Objective because a competitive bidding process is relatively costly, uncertain, and more time-

---

<sup>15</sup> See Docket No. 03-0372, Decision and Order No. 23121 (Dec. 11, 2006).



consuming. As explained in the KEMA Report, FITs reduce developer cost and risk “because they are standard offers available without recourse to costly and lengthy competitive processes, resulting in lower development costs, a reduced rate of contract failure, and an increased ability for small projects to develop renewable energy systems.” *Id.* at 1-2.

For those reasons, competitive bidding has been less successful than tariffs in promoting the “rapid growth” of renewable energy. P. Gipe, *Renewable Energy Policy Mechanisms* (Feb. 17, 2006) at 34-36. The KEMA Report also notes that a tender process in the Netherlands analogous to competitive bidding is limited by its “lengthy process” which results “transaction costs for both buyers and sellers [which] are significant, especially the first time.” *Id.* at 73; *see also* Solar Electric Power Association, *Utility Procurement Study: Solar Electricity in the Utility Market* (Dec. 2008)<sup>16</sup> at 62-63 (California’s FIT-like Standard Offer No. 4 contracts resulted in contracts for 20,000 MW with 10,000 MW reaching operations; subsequent competitive bidding resulted contracts for 1,700 MW with 49 MW reaching operations); European Photovoltaic Industry Association, *Supporting Solar Photovoltaic Electricity: An Argument for Feed-in Tariffs* (2008) at 9 (non-recovery of bid planning costs is a “major drawback” of tendering, contributing to “ineffectiveness” of bid systems).

Indeed, Ernst & Young concluded in a 2008 report that the German FIT law resulted in a lower cost to consumers than a system in the United Kingdom that relies on a competitive tender process. Ernst & Young, *Renewable Energy Country Attractiveness Indices* (2008) at 13<sup>17</sup>; *see also* P. Gipe, *Ernst & Young Finds Feed-in Tariff Cheaper Than Trading System* (Oct. 7, 2008)<sup>18</sup> (“This conclusion turns on its head the common misperception that feed-

---

<sup>16</sup> Available at <http://www.solarelectricpower.org/docs/Procurement%20Report%20FINAL%20-%202012-16-08.pdf>

<sup>17</sup> Available at [http://www.ey.com/Global/assets.nsf/International/Industry\\_Uilities\\_Renewable\\_energy\\_country\\_attractiveness\\_indices/\\$file/Industry\\_Uilities\\_Renewable\\_energy\\_country\\_attractiveness\\_indices.pdf](http://www.ey.com/Global/assets.nsf/International/Industry_Uilities_Renewable_energy_country_attractiveness_indices/$file/Industry_Uilities_Renewable_energy_country_attractiveness_indices.pdf).

<sup>18</sup> Available at <http://www.wind-works.org/FeedLaws/Great%20Britain/ErnstYoungFindFeed-inTariffs>



in tariffs cost consumers more than so-called market-friendly policies, such as tendering and certificate trading systems.”).

The HECO Companies and Consumer Advocate suggest that the CBF is preferred based upon “system planning and operation issues.” Joint Proposal at 16. It is reasonable to assume that these planning and operation issues will be reduced or eliminated to the extent the Grid Improvement Objective is achieved through implementation of a successful FIT.

***Avoided Cost Offerings.*** Such contracts should play no role in future utility acquisition of renewable energy. *See* Energy Agreement at 16 (“The parties regard avoided energy cost based on fossil fuel prices for renewable energy contracts as a vestige of the past.”).

***Net Energy Metering.*** Although a typically robust FIT may play a greater role than net energy metering (“NEM”) in utility acquisition of renewable energy sufficient to achieve the Rapid Adoption Objective, it is reasonable to allow customers the choice between NEM and an FIT, as is reflected in the Proposed FIT. The Energy Agreement states that the parties are in agreement that there should be no system-wide caps on NEM, but also characterizes NEM as an “interim measure” that is to be replaced by an FIT. *Id.* at 28. The Joint Proposal proposes no new NEM applications, no expansion of NEM capacity, and grandfathering of existing NEM systems. *Id.* at 15. NEM customers may “opt-in to the FIT system at any time, subject to a different tier of energy pricing and shorter contract term.” *Id.* The FIT Proposal allows a renewable energy generator the choice of entering into an NEM agreement or an FIT agreement with the utility. *Id.* at 10.

It is reasonable to give renewable energy generators a choice to enter into a NEM agreement due to the legal right established under section 269-102(a), Hawaii Revised Statutes, and because continued availability of NEM may contribute to broader public support for

achievement of the Rapid Adoption Objective. *See, e.g., Honolulu Advertiser, State PUC raises limits on renewable energy* (Mar. 31, 2008) (citing “explosive growth” in solar systems due in part to availability of net energy metering).<sup>19</sup> Although the KEMA Report suggests various reasons site owners may prefer an FIT to NEM, these reasons do not necessarily establish the necessity or requirement of terminating the NEM program. *See* KEMA Report at 11. The decision is appropriately left to the customer rather than the utility.

**D. Best Design for a PBFiT or alternative method**

**7. What is the best design, including the cost basis, for PBFiTs or other alternative feed-in tariffs to accelerate and increase the development of Hawaii’s renewable energy resources and their integration in the utility system?**

A typical FIT such as the Proposed FIT is the best design for an FIT insofar as it is most likely to achieve the FIT Policy Objectives.

***Mandatory Purchase Requirement and Curtailment.*** The FIT should contain a mandatory purchase requirement because it is fundamental to an FIT and most likely to achieve the Generator Security Objective. The Proposed FIT therefore states that an FIT agreement “shall oblige” the utility to “purchase and pay for all Renewable Energy that would be generated by the Renewable Energy Generating Facility and delivered to the electric system of the Company but for curtailment by the Company of generation or delivery of Renewable Energy by the Renewable Energy Generating Company.” *Id.* at 3 (emphasis added). By contrast, Appendix I to the Straw Tariff states that such an agreement “shall not be construed to constitute a ‘take or pay’ contract.” *Id.* at 1.

Mandatory purchase requirements are fundamental to any FIT for the reasons given above in the description of the Generator Security Objective. A mandatory purchase

---

<sup>19</sup> Available at <http://the.honoluluadvertiser.com/article/2008/Mar/31/bz/hawaii803310344.html>.



requirement that includes payment for curtailment is most likely to achieve the Generator Security Benefit because generators and their investors will have certainty that the FIT does not allow the HECO Companies to not pay them based upon curtailment. This approach may or may not result in higher short-term costs to ratepayers. It is possible that implementation of an FIT that achieves the Ratepayer Benefit Objective may, over the long term, result in cost savings greater than cost savings from not paying for curtailed energy.

**Size Limits.** Placing no limits on project sizes is most likely to achieve the Rapid Adoption Objective because it will encourage the maximum amount of renewable energy generation in the shortest time period. The Proposed FIT proposes project sizes ranging from under 10 kW to 50 MW and over.<sup>20</sup> *Id.* at 4-9. The Joint Proposal and Straw Tariff, by contrast, propose project sizes ranging from 100 kW to a maximum size of 500 kW.

If project size limits are deemed necessary, the limits should be in the range of 20 MW or greater – far higher than the Straw Tariff’s maximum of 500 kW. Most U.S. state FIT proposals are for projects 20 MW and under. KEMA Report at 65. Three tariff bills introduced in the 2006-2007 Hawaii legislative session all contained language establishing a tariff for solar photovoltaic systems up to 20 MW in size. HCEI White Paper at 27. The California Public Utilities Commission may expand an FIT project cap from 1.5 MW to 20 MW and the California Energy Commission is considering an FIT for projects 20 MW and under. KEMA Report at 65. In short, because they are dramatically smaller than typical project sizes, the Joint Proposal project sizes are not likely to achieve the Rapid Adoption Objective.

The reasons given for the Joint Proposal’s unusually small project sizes do not withstand scrutiny. *See* KEMA Report at 16-19. Concerns about costs and delays associated

---

<sup>20</sup> Although the Proposed FIT includes size limits for certain technologies, in general Blue Planet favors an FIT that provides differentiated rates but no maximum size limit.

with environmental and land use permitting and interconnection studies properly fall to the renewable energy developer, rather than the utility. It is unclear whether alleged “complex financial accounting issues” may possibly be addressed by legislatively-authorized payment guarantees or decoupling from sales. As for commercial viability, that determination is best left to the marketplace and should not be relied upon by the HECO Companies to screen out projects.

**Capacity Limits.** The FIT capacity limits should be consistent with the Penetration Limits set forth in the Proposed FIT. *Id.* at 10. It is noted that the HECO Companies provided no numerical figures or specific quantities in response to the Commission’s Information Request asking for “the maximum amount of total and additional resources that can be accommodated without compromising reliability?” *See* HECO Companies’ Response to PUC-IR-1 dated Mar. 18, 2008.

**Contract terms.** The contract terms should be consistent with those set forth in the Proposed FIT. During the March 18-19, 2009 Technical Conference and Settlement Discussions, it was agreed that the standard term for a Schedule FIT Agreement should be twenty years for all eligible renewable resources, provided that appropriate evidence is presented to support this length of term as consistent with the average expected life of each eligible resource.

#### **E. Eligibility Requirements**

##### **8. What renewable energy projects should be eligible for which renewable electricity purchase methods or individual tariffs and when?**

The FIT should include the sources listed in the definition of “Renewable Energy Source” in the Proposed FIT. *Id.* at 2. These sources include biomass, biogas, geothermal energy, landfill gas, sewage treatment plant gas, hydropower, solar radiation, and wind. The Joint Proposal, by contrast, excludes six of these sources (biomass, biogas, geothermal energy,



landfill gas, and sewage treatment plant gas). An FIT that includes these additional sources, especially biomass, is most likely to achieve the Rapid Adoption Objective.

**F. Analysis of the cost to consumers and appropriateness of caps**

**9. What is the cost to consumers and others of the proposed feed-in tariffs?**

Assuming the Ratepayer Benefit Objective is achieved, the cost to consumers of an FIT over the long term will be lower than the cost to consumers from the purchase of imported oil for electricity production.

**10. Should the commission impose caps based upon these financial effects, technical limitations or other reasons on the total amount purchased through any mechanism or tariff?**

Assuming the Ratepayer Benefit Objective is achieved, the cost to consumers of an FIT over the long run will be lower than otherwise. These “financial effects” are positive and provide no basis for limiting the total amount purchased. Current technical limitations, if any, also do not appear to provide basis for such a limit.

**G. Procedural Issues**


**11. What process should the commission implement for evaluating, determining and updating renewable energy purchased power mechanisms or tariffs?**

As stated in the Proposed FIT, the Commission “shall periodically adjust the Schedule FIT feed-in tariff rates of compensation in accordance with the procedures provided in Appendix III of this Schedule.” *Id.* at 9. If the pace of development is too rapid, prices can be reduced and if there is insufficient development prices can be raised; the FIT policy should control the pace of development. P. Gipe, *Renewable Energy Policy Mechanisms* (Feb. 17, 2006) at 23.

**12. What are the administrative impacts to the commission and the parties of the proposed approach?**

The administrative impact to the Commission and the Consumer Advocate include staff review and approval of FIT agreements and FIT updating review. The HECO Companies may require additional engineering staff to facilitate interconnection and achieve the Grid Improvement Objective. The administrative impact to the renewable energy industry is a reduction of administrative costs on a per-project basis because of the reduction of price, revenue and customer uncertainty and the reduction of delays in project development.

DATED: Honolulu, Hawaii, March 30, 2009.

  
\_\_\_\_\_  
DOUGLAS A. CODIGA  
Attorney for Blue Planet Foundation



SCHEDULE FIT

Feed-in Tariff – Purchases from Renewable Energy Generating Facilities

Definitions:

For the purposes of this Schedule:

- (1) "Biogas" means a gaseous fuel produced by anaerobic decomposition of organic matter.
- (2) "Biomass" means aquatic or terrestrial plant material, vegetation, or agricultural waste, originating in the State of Hawaii, used as a fuel or energy source.
- (3) "Company" means Hawaiian Electric Company, Inc.
- (4) "Concentrating Solar Power Facility" means a Renewable Energy Generating Facility that generates electricity by concentrating Solar Radiation to heat a working fluid that drives a generator.
- (5) "Electrical Capacity" means the installed maximum potential alternating-current electricity generating capacity, in kilowatts, of a Renewable Energy Generating Facility.
- (6) "Hybrid Facility" means a Renewable Energy Generating Facility that generates electricity from two or more Renewable Energy Sources.
- (7) "Hydropower" means the energy of moving water, including wave energy, ocean thermal energy conversion, and tidal energy.
- (8) "Non-Wood-Burning Generating Facility" means a Renewable Energy Generating Facility that generates electricity from Biomass and that is not a Wood-Burning Generating Facility.
- (9) "Offshore Wind Generating Facility" means a Wind Generating Facility that is located in an ocean water depth of at least 20 meters.
- (10) "Onshore Wind Generating Facility" means any Wind Generating Facility that is not an Offshore Wind Generating Facility.
- (11) "Photovoltaic Generating Facility" means a Renewable Energy Generating Facility that generates electricity from unconcentrated Solar Radiation.
- (12) "Renewable Energy" means electricity generated by a Renewable Energy Generating Facility from a Renewable Energy Source.

HAWAIIAN ELECTRIC COMPANY, INC.

1

- (13) "Renewable Energy Generating Facility" means any identifiable facility, plant, installation, project, equipment, apparatus, or the like, located in the State of Hawaii, placed in service after the effective date of this Schedule, and that generates Renewable Energy from a Renewable Energy Source.
- (14) "Renewable Energy Generator" means any person that owns, controls, operates, manages, or uses a Renewable Energy Generating Facility to produce Renewable Energy from a Renewable Energy Source.
- (15) "Renewable Energy Source" means the following sources of energy:
  - (a) Biomass;
  - (b) Biogas;
  - (c) Geothermal Energy;
  - (d) Landfill Gas;
  - (e) Sewage Treatment Plant Gas;
  - (f) Hydropower;
  - (g) Solar Radiation;
  - (h) Wind.
- (16) "Wood-Burning Generating Facility" means a Renewable Energy Generating Facility that burns wood to generate electricity.
- (17) "Wind Generating Facility" means a Renewable Energy Generating Facility that generates electricity from Wind.

#### Interconnection

At the request of a Renewable Energy Generator that places a Renewable Energy Generating Facility in service, the Company shall interconnect such Renewable Energy Generating Facility to the electric system of the Company, provided that technical requirements set forth in the Company's Rules relating to interconnection of generating facilities with the Company's electric system, as approved by the Public Utilities Commission, are met. Costs incurred by the Company to meet technical requirements of interconnection shall be allocated so that those costs that benefit a Renewable Energy Generating Facility are borne by the Renewable Energy Generator that uses the Renewable Energy Generating Facility to produce Renewable Energy, in conformity with orders of the Public Utilities Commission relating to distributed generation in the State of Hawaii. Each of the Company and the Renewable Energy Generator shall disclose to the other, within 6 weeks of a request by the other, any and all data, relating to the electric system of the Company or the Renewable Energy Generating Facility of the Renewable Energy Generator, necessary to plan and execute such interconnection in conformity with such technical requirements.



A Renewable Energy Generating Facility shall be designed to operate in parallel with the Company's electric system without adversely affecting the operations of its customers and without presenting safety hazards to personnel of the Company or its customers. The Renewable Energy Generator shall furnish, install, operate and maintain facilities such as relays, switches, synchronizing equipment, monitoring equipment and control and protective devices designated by the Company and specified in the standard Schedule FIT Agreement ("Schedule FIT Agreement") as suitable for parallel operation with the electric system of the Company. The Renewable Energy Generating Facility and systems interconnecting the Renewable Energy Generating Facility with the Company's electric system must be in compliance with all applicable safety and performance standards of the National Electric Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and the Company's requirements for distributed generation interconnected with the Company's electric system as provided in the Company's Rules, and subject to any other requirements, including payments, as provided in the Schedule FIT Agreement.

Requests to interconnect a Renewable Energy Generating Facility in parallel with the Company's electric system will be processed in accordance with the procedures in Appendix II.

Schedule FIT Agreement:

The Company shall offer a Schedule FIT Agreement, in the form provided in Appendix I, to any Renewable Energy Generator that requests interconnection of a Renewable Energy Generating Facility to the electric system of the Company under this Schedule. Each such Schedule FIT Agreement shall oblige the Company to purchase and pay for all Renewable Energy generated by the Renewable Energy Generating Facility and delivered to the electric system of the Company, and to purchase and pay for all Renewable Energy that would be generated by the Renewable Energy Generating Facility and delivered to the electric system of the Company but for curtailment by the Company of generation or delivery of Renewable Energy by the Renewable Energy Generating Company, and shall oblige the Company to purchase and pay for all such Renewable Energy at the feed-in tariff rate of compensation (in cents per kilowatt-hour) set forth in this Schedule. The Company shall compensate the Renewable Energy Generator for such Renewable Energy in an amount no less than the number of kilowatt-hours of such Renewable Energy multiplied by such rate of compensation.

With respect to Renewable Energy generated by a Hybrid Facility and delivered to the electric system of the Company, each such Schedule FIT Agreement shall oblige the Company to take all such Renewable Energy, and shall oblige the Company to purchase and pay for such Renewable Energy generated by the Hybrid Facility from each Renewable Energy Source at the feed-in tariff rate of compensation (in cents per kilowatt-hour) for such Renewable Energy set forth in this Schedule.

Procedures for requesting and executing a Schedule FIT Agreement are provided in Appendix II to this Schedule.

Metering:

The Company, at its expense, shall install a meter to record the flow of Renewable Energy delivered to the electric system of the Company. The Renewable Energy Generator shall, at its expense, provide, install and maintain all conductors, service switches, fuses, meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels and similar devices required for service connection and meter installations on the premises of the Renewable Energy Generating Facility in accordance with the Company's Rules.

Any energy delivered to a Renewable Energy Generator by the Company will be metered separately from any Renewable Energy delivered by the Renewable Energy Generator to the Company, either by use of multiple meters or a meter capable of separately recording the net inflow and outflow of electricity.

Purchase of Renewable Energy Delivered by a Renewable Energy Generator to the Company:

The Company shall pay for each kilowatt-hour ("kWh") of Renewable Energy delivered to the Company by a Renewable Energy Generator as follows.

Renewable Energy Source: Biomass	
Wood-Burning Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤150 kW	
> 150 kW and ≤500 kW	
> 500 kW and ≤5000 kW	
> 5000 kW	

Renewable Energy Source: Biomass	
Non-Wood-Burning Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤150 kW	
> 150 kW and ≤500 kW	
> 500 kW and ≤5000 kW	
> 5000 kW	

Renewable Energy Source: Biogas	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤150 kW	
> 150 kW and ≤500 kW	



> 500 kW and ≤5000 kW	
> 5000 kW and ≤20000 kW	

Renewable Energy Source: Geothermal Energy	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤10000 kW	
> 10000 kW	

Renewable Energy Source: Landfill Gas or Sewage Treatment Plant Gas	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤500 kW	
> 500 kW and ≤5000 kW	

Renewable Energy Source: Hydropower	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤500 kW	
> 500 kW and ≤2000 kW	
> 2000 kW and ≤5000 kW	
> 5000 kW and ≤10000 kW	
> 10000 kW and ≤20000 kW	
> 20000 kW and ≤50000 kW	
> 50000 kW	

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Oahu Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤10 kW	
≥10 kW and ≤100 kW	
≥100 kW and ≤500 kW	
≥500 kW and ≤5000 kW	
≥5000 kW	



Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Maui <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
≥10 kW and ≤100 kW	
≥100 kW and ≤500 kW	
≥500 kW and ≤5000 kW	
≥5000 kW	

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Molokai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
≥10 kW and ≤100 kW	
≥100 kW and ≤500 kW	
≥500 kW and ≤5000 kW	

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Lanai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
≥10 kW and ≤100 kW	
≥100 kW and ≤500 kW	
≥500 kW and ≤5000 kW	

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Hawaii <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
≥10 kW and ≤100 kW	
≥100 kW and ≤500 kW	
≥500 kW and ≤5000 kW	
≥5000 kW	

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Oahu <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤500 kW	
> 500 kW and ≤5000 kW	
> 5000 kW and ≤10000 kW	
> 10000 kW and ≤20000 kW	

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Maui <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤500 kW	
> 500 kW and ≤5000 kW	
> 5000 kW and ≤10000 kW	
> 10000 kW and ≤20000 kW	

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Molokai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤500 kW	
> 500 kW and ≤5000 kW	

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Lanai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤500 kW	
> 500 kW and ≤5000 kW	

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Hawaii <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤500 kW	
> 500 kW and ≤5000 kW	
> 5000 kW and ≤10000 kW	
> 10000 kW and ≤20000 kW	

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Oahu <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
> 10 kW and ≤50 kW	
> 50 kW and ≤250 kW	
> 250 kW and ≤500 kW	
> 500 kW and ≤1000 kW	
> 1000 kW and ≤2500 kW	
> 2500 kW and ≤5000 kW	
> 5000 kW and ≤20000 kW	

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Maui <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
> 10 kW and ≤50 kW	
> 50 kW and ≤250 kW	
> 250 kW and ≤500 kW	
> 500 kW and ≤1000 kW	
> 1000 kW and ≤2500 kW	
> 2500 kW and ≤5000 kW	
> 5000 kW and ≤20000 kW	

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Molokai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤10 kW	
> 10 kW and ≤50 kW	
> 50 kW and ≤250 kW	
> 250 kW and ≤500 kW	
> 500 kW and ≤1000 kW	
> 1000 kW and ≤2500 kW	
> 2500 kW and ≤5000 kW	
> 5000 kW and ≤20000 kW	



Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Lanai Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤10 kW	
> 10 kW and ≤50 kW	
> 50 kW and ≤250 kW	
> 250 kW and ≤500 kW	
> 500 kW and ≤1000 kW	
> 1000 kW and ≤2500 kW	
> 2500 kW and ≤5000 kW	
> 5000 kW and ≤20000 kW	

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Hawaii Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤10 kW	
> 10 kW and ≤50 kW	
> 50 kW and ≤250 kW	
> 250 kW and ≤500 kW	
> 500 kW and ≤1000 kW	
> 1000 kW and ≤2500 kW	
> 2500 kW and ≤5000 kW	
> 5000 kW and ≤20000 kW	

Renewable Energy Source: Wind	
Offshore Wind Generating Facility Years of Agreement Term	Feed-in Tariff Rate (¢/kWh)
Years 1 through 12	
Years 13 through 20	

The Commission shall periodically adjust the Schedule FIT feed-in tariff rates of compensation in accordance with the procedures provided in Appendix III of this Schedule. The Renewable Energy Generator shall receive the feed-in tariff rate of compensation in effect at the time of execution of the Schedule FIT Agreement for the entire term of the Schedule FIT Agreement.

Term of Schedule FIT Agreement:

The term of the Schedule FIT Agreement will be as follows, commencing on the initial delivery of Renewable Energy under the Schedule FIT Agreement from the Renewable Energy Generator to the Company:

HAWAIIAN ELECTRIC COMPANY, INC.

<u>Renewable Energy Source</u>	<u>Term of Agreement</u>
Biomass	20 years
Biogas	20 years
Geothermal Energy	20 years
Landfill Gas	20 years
Sewage Treatment Plant Gas	20 years
Hydropower	20 years
Solar Radiation	20 years
Wind	20 years

#### Net Energy Metering

A Renewable Energy Generator that is eligible to enter into a net energy metering agreement with the Company shall have a choice of either (1) entering into a net energy metering agreement with the Company, or (2) entering into a Schedule FIT Agreement with the Company.

#### Penetration Limits for Intermittent Renewable Energy Sources

The obligations of the Company to interconnect a Renewable Energy Generating Facility to the Company's electric system and to offer an Schedule FIT Agreement to a Renewable Energy Generator to purchase and pay for Renewable Energy at a feed-in tariff rate of compensation under this Schedule shall not apply with respect to Renewable Electricity produced by a Renewable Energy Generating Facility that is (i) a Wind Generating Facility, and that is placed in service after December 31 of the year following the year during which the aggregate Electrical Capacity of Renewable Energy Generating Facilities that are Wind Generating Facilities as to which technical requirements for interconnection have been met equals or exceeds 25 per cent of the peak demand for such electrical system, provided that the Public Utilities Commission may increase, by rule or order, such aggregate Electrical Capacity limit above 25 per cent of such peak demand, or (ii) a Photovoltaic Generating Facility or a Concentrating Solar Generating Facility, and that is placed in service after December 31 of the year following the year during which the aggregate Electrical Capacity of Renewable Energy Generating Facilities that are Photovoltaic Generating Facilities or Concentrating Solar Generating Facilities as to which technical requirements for interconnection have been met equals or exceeds 20 per cent of the peak demand for such electrical system, provided that the Public Utilities Commission may increase, by rule or order, such aggregate Electrical Capacity limit above the above-referenced 25 per cent and 20 per cent peak demands.

#### Queuing Procedures:

Requests for interconnection of Renewable Energy Generating Facilities under this Schedule shall be administered on a first-ready, first-to-interconnect basis, modeled after the queuing procedures adopted by the Midwest Independent Transmission System Operator, Inc. See Midwest Independent Transmission System Operator ("Midwest



ISO”), Generator Interconnection Process Tariff (August 25, 2008)  
[http://www.midwestmarket.org/publish/Document/25f0a7\\_11c1022c619\\_-7d600a48324a/Attachment%20X%20GIP.pdf?action=download&\\_property=Attachment;MidwestISO,BusinessPracticesManual:GeneratorInterconnection](http://www.midwestmarket.org/publish/Document/25f0a7_11c1022c619_-7d600a48324a/Attachment%20X%20GIP.pdf?action=download&_property=Attachment;MidwestISO,BusinessPracticesManual:GeneratorInterconnection)  
(Manual No. 15, TP-BPM-004-r2, January 6, 2009)  
[http://www.midwestmarket.org/publish/Document/45e84c\\_11cdc615aa1\\_-7e010a48324a](http://www.midwestmarket.org/publish/Document/45e84c_11cdc615aa1_-7e010a48324a).

Renewable Energy Certificates:

Any certificate, credit, allowance, green tag, or other transferable indicia or environmental attribute, verifying the generation of a particular quantity of energy from a Renewable Energy Source, indicating the generation of a specific quantity of Renewable Energy by a Renewable Energy Generating Facility, or indicating a Renewable Energy Generator’s ownership of any environmental attribute associated with such generation, is the property of the Renewable Energy Generator and freely assignable by the Renewable Energy Generator.



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF HAWAII

In the Matter of

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to Investigate the  
Implementation Of Feed-in Tariffs.

DOCKET NO. 2008-0273

**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that on this date a copy of the foregoing document was  
duly served upon the following individuals by placing a copy of same in the United States Mail,  
postage prepaid, or by electronic mail, as follows:

CATHERINE P. AWAKUNI  
EXECUTIVE DIRECTOR  
DEPT. OF COMMERCE & CONSUMER AFFAIRS  
DIVISION OF CONSUMER ADVOCACY  
P.O. Box 541  
Honolulu, HI 96809

2 copies by U.S. Mail and  
Electronic Service

DEAN MATSUURA  
MANAGER  
REGULATORY AFFAIRS  
HAWAIIAN ELECTRIC COMPANY, INC.  
P.O. Box 2750  
Honolulu, HI 96840-0001

Electronic Service

JAY IGNACIO  
PRESIDENT  
HAWAII ELECTRIC LIGHT COMPANY, INC.  
P. O. Box 1027  
Hilo, HI 96721-1027

Electronic Service

EDWARD L. REINHARDT  
PRESIDENT  
MAUL ELECTRIC COMPANY, LTD.  
P. O. Box 398  
Kahului, HI 96732

Electronic Service

THOMAS W. WILLIAMS, JR., ESQ.  
PETER Y. KIKUTA, ESQ.  
DAMON L. SCHMIDT, ESQ.  
GOODSILL, ANDERSON QUINN & STIFEL  
Alii Place, Suite 1800  
1099 Alakea Street  
Honolulu, HI 96813  
Counsel for HECO Companies

Electronic Service

ROD S. AOKI, ESQ.  
ALCANTAR & KAHL LLP  
120 Montgomery Street, Suite 2200  
San Francisco, CA 94104  
Counsel for HECO Companies

Electronic Service

THEODORE PECK  
DEPARTMENT OF BUSINESS, ECONOMIC  
DEVELOPMENT,  
AND TOURISM  
State Office Tower  
235 South Beretania Street, Room 501  
Honolulu, HI 96813

Electronic Service

ESTRELLA SEESE  
DEPARTMENT OF BUSINESS, ECONOMIC  
DEVELOPMENT,  
AND TOURISM  
State Office Tower  
235 South Beretania Street, Room 501  
Honolulu, HI 96813

Electronic Service

MARK J. BENNETT, ESQ.  
DEBORAH DAY EMERSON, ESQ.  
GREGG J. KINKLEY, ESQ.  
DEPARTMENT OF THE ATTORNEY GENERAL  
425 Queen Street  
Honolulu, HI 96813  
Counsel For DBEDT

Electronic Service

CARRIE K.S. OKINAGA, ESQ.  
GORDON D. NELSON, ESQ.  
DEPT. OF THE CORPORATION COUNSEL  
CITY AND COUNTY OF HONOLULU  
530 South King Street, Room 110  
Honolulu, HI 96813  
Counsel for City and County of Honolulu

Electronic Service

LINCOLN S.T. ASHIDA, ESQ.  
WILLIAM V. BRILHANTE JR., ESQ.  
MICHAEL J. UDOVIC, ESQ.  
DEPT. OF THE CORPORATION COUNSEL  
COUNTY OF HAWAII  
101 Aupuni Street, Suite 325  
Hilo, HI 96720  
Counsel for County of Hawaii

Electronic Service

MR. HENRY Q CURTIS  
MS. KAT BRADY  
LIFE OF THE LAND  
76 North King Street, Suite 203  
Honolulu, HI 96817

Electronic Service

MR. CARL FREEDMAN  
HAIKU DESIGN & ANALYSIS  
4234 Hana Highway  
Haiku, HI 96708

Electronic Service

MR. WARREN S. BOLLMEIER II  
PRESIDENT  
Hawaii Renewable Energy Alliance  
46-040 Konane Place, #3816  
Kaneohe, HI 96744

Electronic Service

MR. MARK DUDA  
PRESIDENT  
HAWAII SOLAR ENERGY ASSOCIATION  
P.O. Box 37070  
Honolulu, HI 96837

Electronic Service

MR. RILEY SAITO  
THE SOLAR ALLIANCE  
73-1294 Awakea Street  
Kailua-Kona, HI 96740

Electronic Service



MR. JOEL K. MATSUNAGA  
HAWAII BIOENERGY, LLC  
737 Bishop Street, Suite 1860  
Pacific Guardian Center, Mauka Tower  
Honolulu, HI 96813

Electronic Service

KENT D. MORIHARA, ESQ.  
KRIS N. NAKAGAWA, ESQ.  
SANDRA L. WILHIDE, ESQ.  
MORIHARA LAU & FONG LLP  
841 Bishop Street, Suite 400  
Honolulu, HI 96813  
Counsel for Hawaii Bioenergy, LLC

Electronic Service

MR. THEODORE E. ROBERTS  
SEMPRA GENERATION  
101 Ash Street, Hq. 12  
San Diego, CA 92101

Electronic Service

MR. CLIFFORD SMITH  
MAUI LAND & PINEAPPLE COMPANY, INC.  
P.O. Box 187  
Kahului, HI 96733

Electronic Service

KENT D. MORIHARA, ESQ.  
KRIS N. NAKAGAWA, ESQ.  
SANDRA L. WILHIDE, ESQ.  
MORIHARA LAU & FONG LLP  
841 Bishop Street, Suite 400  
Honolulu, HI 96813  
Counsel for Maui Land & Pineapple Company, Inc.

Electronic Service

MR. ERIK KVAM  
CHIEF EXECUTIVE OFFICER  
BLUE PLANET LEASING LLC  
2800 Woodlawn Drive, Suite 131  
Honolulu, HI 96822

Electronic Service

MR. JOHN N. REI  
SOPOGY INC.  
2660 Waiwai Loop  
Honolulu, HI 96819

Electronic Service

GERALD A. SUMIDA, ESQ.  
TIM LUI-KWAN, ESQ.  
NATHAN C. NELSON, ESQ.  
CARLSMITH BALL LLP  
ASB Tower, Suite 2200  
1001 Bishop Street  
Honolulu, HI 96813  
Counsel for Hawaii Holdings, LLC, dba First Wind  
Hawaii

Electronic Service

MR. CHRIS MENTZEL  
CHIEF EXECUTIVE OFFICER  
CLEAN ENERGY MAUI LLC  
619 Kupulau Drive  
Kihei, HI 96753

Electronic Service

HARLAN Y. KIMURA, ESQ.  
Central Pacific Plaza  
220 South King Street, Suite 1660  
Honolulu, HI 96813  
Counsel for Tawhiri Power LLC

Electronic Service

SANDRA-ANN Y.H. WONG, ESQ.  
Attorney At Law, A Law Corporation  
1050 Bishop Street, #514  
Honolulu, HI 96813  
Counsel for Alexander & Baldwin, Inc., through its  
division, Hawaiian Commercial & Sugar Company

Electronic Service

DATED: Honolulu, Hawaii, March 30, 2009.

  
\_\_\_\_\_  
DOUGLAS A. CODIGA  
Attorney for Blue Planet Foundation